

REPORT TITLE: A STUDY OF THE RELATIONSHIP OF  
GEOLOGICAL FORMATION TO THE  
NORM

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MENTAL STUDIES  
SOUTHERN UNIVERSITY  
BATON ROUGE, LA. 70813

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PRINCIPAL AUTHORS: TALMAGE P. BURSH  
DERALD CHRISS

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SUBMITTING ORGANIZATION: Southern University  
Center for Energy and  
Environmental Studies  
P.O. Box 9764  
Baton Rouge, LA 70813

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## ABSTRACT

Naturally Occurring Radioactive Materials (NORM) is a common and costly contaminant of produced waters associated with natural gas production and exploration. One way of combatting this problem is by identifying the problem beforehand. Our approach to this problem involves development of NORM prediction capabilities based on the geological environment.

During quarter thirty of this project, work has continued in accordance with the project scope of work. We are still currently analyzing our produced water samples with emphasis continuing on metals analysis.

## EXECUTIVE SUMMARY:

The Southern University Center for Energy and Environmental Studies is currently studying relationships which may exist between geological and radiological factors (NORM) in produced water samples. The goal also involves the observation of selected water parameters and determine their relationship to the aforementioned factors as well.

## PROJECT INTRODUCTION:

This project is to consist of three major tasks: (1) Radiological Analysis, (2) Correlative Results with Respect to NORM Activity, geological parameters and metals content, and (3) Technology Transfer.

The radiological results have been done by a subcontractor with the chemical analysis of samples and the geological component to be generated in-house or by another (as of yet undetermined source).

## RESULTS AND DISCUSSION:

During this reporting period, efforts were geared towards finalizing the produced water samples, with emphasis on the metals analysis associated with the sites selected. The appropriate methods, etc., are in place and are currently being employed.

## CONCLUSION:

We have obtained preliminary results and have reached some conclusions from these results. In addition, attempts to complete the in-house geological aspects of the project are continuing.